

ADDITIONAL CHROMOSOME NUMBERS IN BRAZILIAN COMPOSITAE

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While serving as a research taxonomist at the Instituto de Botânica of São Paulo, Brazil, I had the opportunity to collect material of Brazilian Compositae for cytological study. A previous report on this study has been published (Coleman 1968).

In the present paper 40 counts are reported for 35 species of 18 genera (Table 1). Initial reports are given for 29 species and 2 genera. The initial generic reports are for *Elvira*, $n = 12$, and *Ichthyothere*, $n = ca\ 33$.

The methods used are identical to those described by Coleman (1968). The material of *Eupatorium ballotaeefolium*, *E. organense* and *E. tremulum* was determined by Dr. Lyman B. Smith and *Simsia dombeyana* by Dr. J. Cuatrecasas. My appreciation is sincerely expressed. All other identifications are my own. A complete set of voucher specimens is deposited in the University of Georgia Herbarium and a nearly complete set in the Herbarium of the Instituto de Botânica of São Paulo, Brazil.

VERNONIEAE

The report of $n = 16$ for *Centratherum punctatum* agrees with an earlier report for that species based on Panamanian material (Turner and King 1964). No other counts have been reported for the genus.

EUPATORIEAE

The count of $n = 10$ for *Ageratum campuloclinoides* is the initial report for the species. Robinson (1913) considered *A. campuloclinoides* a doubtful *Ageratum* and suggested its affinities to be with *Trichogonia*. Since the counts reported to date for *Trichogonia* agree with those of *Ageratum* in being based on $x = 10$, chromosome number is no aid in better defining the relationship of *Ageratum campuloclinoides*.

The report of $n = 10$ for *Alomia fastigiata* agrees with a previous report for this species (Coleman 1968). The Central American *Alomia microcarpa* (Benth.) Rob. has also been reported as $n = 10$ (Turner and King 1964). Counts of $n = 9$ are reported for two populations of *Alomia longifolia* (Gardn.) Rob. This species was originally described in the genus *Ageratum*, but was subsequently transferred to *Carelia* and later *Alomia*. No reports are available for *Carelia*, but previous reports for both *Ageratum* and *Alomia* are based on $x = 10$.

North American species of *Stevia* have been reported as $n = 11, 12$ and 17 (Powell and Turner 1963). With the report of $n = 12$ for *Stevia organensis*, counts of $n = 11$ and 12 have now been reported for Brazilian species.

The count of $n = 10$ for *Eupatorium laetevirens* agrees with an earlier report for the species. The report of $n = 10$ for *E. ballotaeifolium* concurs with a count presented for Colombian material of that species (Powell and King, 1969). I have previously reported $n = 30$ for *E. ballotaeifolium* from southern Brazil (Coleman, 1968).

ASTEREAE

Counts of $n = 9$ for species of *Baccharidastrium* and *Baccharis* are in agreement with previous reports for these genera.

HELIANTHEAE

Blainvillea rhomboidea, $n = 17$, is the second species of the genus to be reported. *Blainvillea latifolia* DC. has been reported as $n = 39$ (Mehra et al 1965). An approximate count of $n = 24 \pm 2$ is reported for *Spilanthes acmella*. Previous counts of $n = 7$ (Malik and Ahmad in Cave 1964) and $n = 12$ (Mehra et al 1965) have been reported. Turner et al (1962) have shown a diploid, tetraploid and hexaploid series to exist in *S. americana* Hieron. A similar situation evidently occurs in *S. acmella*.

The counts of $n = 12$ for *Elvira biflora* and $n = ca 33$ for *Ichthyothere rufa* are the initial reports for these genera.

ANTHEMIDEAE

The report of $n = 9$ for *Anthemis nobilis* is consistent with previous reports for the genus.

SENECIONEAE

Counts reported for species of *Senecio* are consistent with the majority of previous reports for that genus in being based on $x = 10$.

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Table 1

Species	<i>n</i>	Locality
VERNONIEAE		
<i>Centratherum punctatum</i> Cass.	16	State of Bahia; Correntina. 523
EUPATORIEAE		
* <i>Ageratum campuloclinoides</i> Baker	10	State of Goiás: Alvorada, between Posse and Formosa. 572
<i>Alomia fastigiata</i> (Gardn.) Benth.	10	State of Minas Gerais: Serra do Cipó, ca 75 km NNE of Belo Horizonte. 598
* <i>Alomia longifolia</i> (Gardn.) Rob.	9	State of Minas Gerais: Serra do Cipó, ca 75 km NNE of Belo Horizonte. 596
* <i>Alomia longifolia</i> (Gardn.) Rob.	9	State of Bahia: ca 5 km E of Morro do Chapéu. 499
* <i>Eupatorium amygdalinum</i> Lam.	17	State of Minas Gerais: 15 km W of Campanha. 466
<i>Eupatorium ballotaefolium</i> H.B.K.	10	State of Bahia: Gameleira, Município of Irecê. 477
* <i>Eupatorium bupleurifolium</i> DC.	10	State of São Paulo: 8-10 km ESE of Campos do Jordão. 602
<i>Eupatorium laetevirens</i> H. & A.	10	State of São Paulo: ca 5 km N of Campos do Jordão. 599
* <i>Eupatorium organense</i> Gardn.	10	State of Rio de Janeiro: Parque Nacional de Itatiaia. 578
* <i>Eupatorium tremulum</i> H. & A.	10	State of Bahia: Veredãozinho, Município of Correntina. 554
* <i>Stevia organensis</i> Gardn.	12	State of Rio de Janeiro: Parque Nacional Serra dos Orgãos. 575
ASTEREAE		
* <i>Baccharidastrum rivulare</i> (Gardn.) Herter	9	State of Rio de Janeiro: Maromba, Parque Nacional de Itatiaia. 471
* <i>Baccharidastrum triplinervium</i> (Less.) Cabrera	9	State of São Paulo: São Bento de Sapucaí. 445

Species	<i>n</i>	Locality
* <i>Baccharis brevifolia</i> DC.	9	State of São Paulo: 8-10 km ESE of Campos do Jordão. 438
* <i>Baccharis burchellii</i> Baker	9	State of São Paulo: 8-10 km ESE of Campos do Jordão. 434
* <i>Baccharis cf. dracunculifolia</i> DC.	9	State of São Paulo: Parque do Estado, São Paulo. 607
* <i>Baccharis elaeagnoides</i> Steud.	9	State of Minas Gerais: Brejo de Lapa, Parque Nacional de Itatiaia. 437
* <i>Baccharis ligustrina</i> DC.	9	State of São Paulo: 8-10 km ESE of Campos do Jordão. 443
* <i>Baccharis mesoneura</i> DC.	9	State of São Paulo: 8-10 km ESE of Campos do Jordão. 444
* <i>Baccharis tarchonanthoides</i> DC.	9	State of Minas Gerais: ca 25 km E of Camanducaia. 431
<i>Baccharis</i> sp.	9	State of Minas Gerais: ca 30 km E of Camanducaia. 435
HELIANTHEAE		
* <i>Bidens gardneri</i> Baker	24	State of Minas Gerais: Serra do Cipó, ca 75 km NNE of Belo Horizonte. 591
* <i>Blainvillea rhomboidea</i> Cass.	17	State of Minas Gerais: Lagoa Santa. 584
* <i>Blainvillea rhomboidea</i> Cass.	17	State of Bahia: Correntina. 527
* <i>Calea serrata</i> Less.	19	State of Minas Gerais: ca 35 km SSE of Caxambu. 467
** <i>Elvira biflora</i> DC.	12	State of Bahia: Correntina. 519
** <i>Ichthyothere rufa</i> Gardn.	ca33	State of Goiás: Alvorada, between Posse and Formosa. 569
* <i>Melampodium paniculatum</i> Gardn.	25-27	State of Goiás: Alvorada, between Posse and Formosa. 570
* <i>Melampodium paniculatum</i> Gardn.	26	State of Minas Gerais: Lagoa Santa. 588
* <i>Simsia dombeyana</i> DC.	17	State of Bahia: 12 km W Irecê. 505
<i>Spilanthes acmella</i> L.	24+2	State of Bahia: Correntina. 532
* <i>Wulffia stenoglossa</i> DC.	30	State of Bahia: Correntina. 529
ANTHEMIDEAE		
* <i>Anthemis nobilis</i> L.	9	State of Rio de Janeiro: Parque Nacional Serra dos Orgãos. 574

SENECIONEAE

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|--------------------------------------|-------|---|
| * <i>Senecio cuneifolius</i> Gardn. | 50 | State of Rio de Janeiro: Parque Nacional Serra dos Orgãos.
577 |
| * <i>Senecio desiderabilis</i> Vell. | 45-50 | State of São Paulo: 8-10 km ESE of Campos do Jordão. 457 |
| * <i>Senecio hemmendorffii</i> Malme | 45-50 | State of Minas Gerais: ca 25 km E of Camanducaia. 461 |
| * <i>Senecio hemmendorffii</i> Malme | 50 | State of Minas Gerais: ca 25 km E of Camanducaia. 458 |
| * <i>Senecio icoglossus</i> DC. | 20 | State of Minas Gerais: Brejo de Lapa, Parque Nacional de
Itatiaia. 453 |
| * <i>Senecio icoglossus</i> DC. | 20 | State of São Paulo: 8-10 km ESE of Campos do Jordão. 454 |

*Species not reported previously

**Genera not reported previously